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EXAMINER

BAYARD, DJENANE M

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/027,457	<b>Applicant(s)</b> COATNEY ET AL.	
	<b>Examiner</b> DJENANE M. BAYARD	<b>Art Unit</b> 2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 6-9, 11-17, 19, 20 and 23-55 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-9, 11-17, 19-20, 23-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

1. This is in response to communication filed on 6/06/08 in which claims 6-9, 11-17, 19-20, 23-55 are pending.

***Response to Arguments***

2. Applicant's arguments with respect to claims 6-9, 11-17, 19-20, 23-55 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 27, 35 and 50 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. On pages 13-14 of the application, Applicant has provided evidence that Applicant intends to claim this invention implemented as software. Computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical "things." They are neither computer components nor statutory processes, as they are not "acts" being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program's functionality to be realized.

***Claim Rejections - 35 USC § 112***

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4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 17 recites the limitation “the SCSI “in line 17. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 6-8,12-17, 19, 27-29, 31, 34-35, 42-43, 49-54 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2003/0065782 to Nishanov et al. in view of U.S. Patent No. 6,470382 to Wang et al.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

a. As per claims 6 and 27, Nishanov et al teaches a method of claiming ownership of a plurality of disks by a network device of a plurality of network devices in a network storage system comprising: writing ownership information to a predetermined area of each disk the ownership information definitive ownership data for determining ownership of the disk (See page 4, paragraph [0036-0037], *the storage device has maintained a key table, a reservation table*); setting a small computer system interface (SCSI) reservation tag for each disk to a state of network device ownership to provide a two part indicia of ownership for each disk (See page 4, paragraph [0037-0038], where the two part indicia of ownership for each disk, where the two part indicia of ownership are both written to each disk (See page 4, paragraph [0037, *each node that wants access to the disk has an identifier and registers a reservation key with the disk which is stored in the key table based on the identifier*) identifying all disks owned by the network device using ownership information written to the predetermined area of each disk of the plurality disks and, for each identified disk, if a mismatch occurs between the ownership information on the predetermined area of the disk and the ownership defined by the SCSI reservation tag, then using the ownership information written to the predetermined area of the disk as definite ownership data (See page 5, paragraph [0048] and page 6, paragraph [0054]); and in response to identifying, storing entries in the table, wherein each entry identifies an owned disk of the network storing table. However, Nishanov fails to teach wherein the predetermined area of the disk is sector 0 and creating a table on each network device in the network storage system and in response to identifying, storing entries in the table, wherein each entry identifies an owned disk of the network storing table.

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Kawashima et al teaches wherein the sector 0 of the track 0 is DDS (disk definition Structure) sector #0 for recording attributes (See col. 45, lines 1-3).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Kawashima et al in the claimed invention of Nishanov et al in order to record attributes (See col. 45, lines 1-3). However, Nishanov et al in view of Kawashima et al fails to teach creating a table on each network device in the network storage system and in response to identifying, storing entries in the table, wherein each entry identifies an owned disk of the network storing table.

Wang et al teaches creating a table on each network device in the network storage system and in response to identifying, storing entries in the table, wherein each entry identifies an owned disk of the network storing table (See col. 10, lines 41-64 and table 1).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Wang et al in the claimed invention of Nishanov et al in view of Kawashima et al in order to provide a convenient and useful method for managing and accessing netSCI devices on a network (See col. 3, lines 36-38).

b. As per claim 9 and 17, Nishanov et al teaches a system comprising a plurality of network devise; one or more switches, each network device connected to at least one of the one or more switch; a plurality of disks having a first ownership attribute in the form of a small computer system interface (SCSI) reservation tag (See page 4, paragraph [0037]), wherein the first and second ownership attribute are written to each disk, each connected to at least one of the plurality of switches wherein the ownership information is definitive ownership data for determining

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ownership of the disk each network device of the plurality of network devices identifies all disks owned by that network device using ownership information written to the predetermined area of each disk of the plurality disks (See page 4, paragraph [0036-0038]) and, for each identified disk, if a mismatch occurs between the ownership information on the predetermined area of the disk and the ownership defined by the SCSI reservation tag, then using the ownership information written to the predetermined area of the disk as definite ownership data (See page 5, paragraph [0048] and page 6, paragraph [0054] However, Nishanov fails to teach wherein the predetermined area of the disk is sector 0 and each network device is configured with a table and to store entries in a table, wherein each entry identifies an owned disk of the network device storing table.

Kawashima et al teaches wherein the sector 0 of the track 0 is DDS (disk definition Structure) sector #0 for recording attributes (See col. 45, lines 1-3).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Kawashima et al in the claimed invention of Nishanov et al in order to record attributes (See col. 45, lines 1-3). However, Nishanov et al in view of Kawashima et al fails to teach creating a table on each network device in the network storage system and in response to identifying, storing entries in the table, wherein each entry identifies an owned disk of the network storing table.

Wang et al teaches wherein each network device is configured with a table and to store entries in a table, wherein each entry identifies an owned disk of the network device storing table (See col. 10, lines 41-64 and table 1).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Wang et al in the claimed invention of Nishanov et al in

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view of Kawashima et al in order to provide a convenient and useful method for managing and accessing netSCI devices on a network (See col. 3, lines 36-38).

c. As per claims 7 and 13, Nishanov et al teaches wherein the ownership information further comprises a serial number of the network device (page 4, paragraph [0037]).

d. As per claims 8, 16 and 19, Nishanov et al teaches wherein the network device comprises a file server (See page 4, paragraph [0036]).

e. As per claims 12, Nishanov et al teaches wherein the small computer system interface level reservation tag is set such that only the network device may write to the disk (See page 1, paragraph [0007]).

f. As per claim 14, Nishanov et al teaches wherein each of the plurality of file servers can read data from each of the plurality of disks (See page 1, paragraph [0007]).

g. As per claim 15, Nishanov et al teaches wherein only a network device that owns one of the plurality of disks can write data to the one disk (See page 4, paragraph [0036-0040]).

h. As per claim 28, 34-35 Nishanov et al teaches a method for a network device to manage ownership of one or more storage devices in a network storage system, comprising: reading



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ownership information from a predetermined area of each storage device wherein the ownership information is definitive ownership data for determining ownership of the storage device (See page 4, paragraph [0039] and page 5, paragraph [0043] and page 7, paragraph [0062 and 0068]); in response to reading the ownership information; reading a small computer system interface (SCSI) reservation tag from each storage device, wherein the SCSI reservation tag allows other network devices to read the ownership information from each storage device ( See page 7, paragraph [0062 and 0068]); comparing the SCSI reservation tag to the ownership information of the same storage device and, if there is not a match, changing the SCSI reservation tag to match the ownership information; and configuring the one or more storage devices identified in the ownership table into at least one volume for use by the network device (See page 5, paragraph [0048, 0050] and page 6, paragraph [0051]). However, Nishanov fails to teach wherein the predetermined area of the disk is sector 0 and creating a table on each network device in the network storage system and in response to identifying, storing entries in the table, wherein each entry identifies an owned disk of the network storing table.

Kawashima et al teaches wherein the sector 0 of the track 0 is DDS (disk definition Structure) sector #0 for recording attributes (See col. 45, lines 1-3).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Kawashima et al in the claimed invention of Nishanov et al in order to record attributes (See col. 45, lines 1-3). However, Nishanov et al in view of Kawashima et al fails to teach creating a table on each network device in the network storage system and in response to identifying, storing entries in the table, wherein each entry identifies an owned disk of the network storing table.

Wang et al teaches creating a table on each network device in the network storage system and in response to identifying, storing entries in the table, wherein each entry identifies an owned disk of the network storing table (See col. 10, lines 41-64 and table 1).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Wang et al in the claimed invention of Nishanov et al in view of Kawashima et al in order to provide a convenient and useful method for managing and accessing netSCI devices on a network (See col. 3, lines 36-38).

i. As per claim 29, Nishanov et al teaches setting ownership information at the predetermined area of each storage device (See page 7, paragraph [0068]).

j. As per claim 31, Nishanov et al teaches wherein the predetermined area of the one or more storage devices is sector zero of the one or more storage devices (See page 7, paragraph [0068]).

k. As per claim 42, Nishanov et al teaches wherein the small computer system interface reservation tag and the ownership information at the predetermined area of the disk indicate ownership by the same network device (See page 4, paragraph [0037-0038]).

l. As per claim 43, Nishanov et al teaches wherein the small computer system interface (SCSI) reservation tag is a small computer system interface level 3 (SCSI-3) reservation tag (See page 4, paragraph [0035]).

m. As per claims 44, 49-50, Nishanov et al teaches a computer readable medium containing executable program instructions for manage ownership of one or more storage devices, the executable program instructions comprising program instructions for: reading ownership information from a predetermined area of each storage device wherein the predetermined area of each storage stored definitive ownership data for determining ownership of the storage device (See page 4, paragraph [0039] and page 5, paragraph [0043] and page 7, paragraph [0068]); accessing a small computer system interface (SCSI) reservation tag associate with each storage device (See page 4, paragraph [0037]) wherein the SCSI reservation tag allows other network devices to read the ownership information from each storage device (See page 7, paragraph [0062], *read the key and check ownership*); comparing the SCSI reservation tag to the ownership information of the same storage device and, if there is not a match, changing the SCSI reservation tag to match the ownership information; and configuring the one or more storage devices for use by the network device (See page 5, paragraph [0048] and page 6, paragraph [0054]).

However, Nishanov fails to teach creating a table on each network device in the network storage system; and storing entries in the table, wherein each entry identifies an owned storage device of the network device storing the table.

Wang et al teaches creating a table on each network device in the network storage system and in response to identifying, storing entries in the table, wherein each entry identifies an owned disk of the network storing table (See col. 10, lines 41-64 and table 1).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Wang et al in the claimed invention of Nishanov et al in view of Kawashima et al in order to provide a convenient and useful method for managing and accessing netSCI devices on a network (See col. 3, lines 36-38).

n. As per claim 51, Nishanov et al teaches a plurality of disks having a first ownership attribute written to a known and constant location across all the disks and second ownership attribute in the form of a small computer system interface (SCSI) reservation tag to provide a two part indicia of ownership (See page 4, paragraph [0036-0037]), wherein the predetermined area of the disk stored definitive ownership data for determining ownership of the disk (See page 7, paragraph [0068]), and the SCSI reservation tag allows other network devices to read the ownership information from each disk (See page 7, paragraph [0062], *read the key and check ownership*); a network device with an ownership layer for comparing the SCSI persistent reservation tag to the ownership information stored in the known and constant location of the same storage device and , if there is not a match, changing the SCSI persistent reservation tag to match ownership information stored in the known and constant location (See page 5, paragraph [0048] and page 6, paragraph [0054]). However, Nishanov fails to teach and a table stored on the network device in the network storage system, wherein the network device is configured to store entries in the table, wherein each entry identifies an owned disk of the network device storing the table.

Wang et al teaches and a table stored on the network device in the network storage system, wherein the network device is configured to store entries in the table, wherein each entry identifies an owned disk of the network device storing the table.

(See col. 10, lines 41-64 and table 1).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Wang et al in the claimed invention of Nishanov et al in view of Kawashima et al in order to provide a convenient and useful method for managing and accessing netSCI devices on a network (See col. 3, lines 36-38).

o. As per claim 52, Nishanov et al teaches a method for a network device to manage ownership of one or more storage devices in a network storage system, comprising: reading ownership information of each storage device from a known and constant location across all storage devices (See page 4, paragraph [0039] and page 5, paragraph [0043]) wherein the known and constant location of each storage device stores definitive ownership data for determining ownership of the storage device (See page 4, paragraph [0039] and page 5, paragraph [0043] and page 7, paragraph [0068]); accessing a small computer system interface (SCSI) reservation tag associate with each storage device (See page 4, paragraph [0037-0038]), wherein the SCSI reservation tag allows other network devices to read the ownership information from each storage device (See page 7, paragraph [0062 and 0068], *read the key and check the ownership*); and comparing the SCSI reservation tag to the ownership information of the same storage device and, if there is not a match, changing the SCSI persistent reservation tag to match the ownership information stored on the storage device in the known and constant

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location (See page 5, paragraph [0048] and page 6, paragraph [0054]). However, Nishanov fails to teach creating a table on each network device in the network storage system; and storing entries in the table, wherein each entry identifies an owned storage device of the network device storing the table.

Wang et al teaches creating a table on each network device in the network storage system and in response to identifying, storing entries in the table, wherein each entry identifies an owned disk of the network storing table (See col. 10, lines 41-64 and table 1).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Wang et al in the claimed invention of Nishanov et al in view of Kawashima et al in order to provide a convenient and useful method for managing and accessing netSCI devices on a network (See col. 3, lines 36-38).

p. As per claim 53, Nishanov et al teaches the claimed invention as described above. Furthermore, Nishanov et al teaches a method, comprising writing ownership information to a predetermined area of the disk to claim write ownership by a first server (See page 4, paragraph [0036-0037]) wherein the predetermined area of each disk stored definitive ownership data for determining ownership of the disk (See page 4, paragraph [0039] and page 5, paragraph [0043] and page 7, paragraph [0062 and 0068]); setting a small computer system interface (SCSI) reservation tag to a state of the first server ownership to provide a two part indicia of ownership for the first server (See page 4, paragraph [0037-0038]).), wherein the SCSI reservation tag allows other network devices to read the ownership information from each disk (See page 7, paragraph [0062 and 0068], *read the key and check the ownership*); and determining, by a

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second server, the disk is owned by the first server by reading the ownership information in the predetermined area of the disk (See page 5, paragraph [0048] and page 6 paragraph [0054]).

q. As per claim 54, Nishanov et al teaches a method of claiming ownership of a plurality of disks by a network device in a network storage system, comprising: writing ownership information to a predetermined area of each disk (See page 4, paragraph [0036]) wherein the predetermined area of each disk stores definitive ownership data for determining ownership of the disk (See page 4, paragraph [0039] and page 5, paragraph [0043] and page 7, paragraph [0062 and 0068]); setting a reservation tag for each disk to a state of network device ownership to provide a two part indicia of ownership for each disk, where the two part indicia of ownership are both written to each disk (See page 4, paragraph [0036-0038]) wherein the SCSI reservation tag allows other network devices to read the ownership information from each disk (See page 7, paragraph [0062 and 0068], *read the key and check the ownership*); identifying all disks owned by the network device using ownership information written to the predetermined area of each disk of the plurality disks and, for each identified disk, if a mismatch occurs between the ownership information on the predetermined area of the disk and the ownership defined by the reservation tag, then using the ownership information written to the predetermined area of the disk as definite ownership data (See page 5, paragraph [0048 and page 6, paragraph [0054]) However, Nishanov fails to teach creating a table on each network device in the network storage system; and storing entries in the table, wherein each entry identifies an owned storage device of the network device storing the table.

Wang et al teaches creating a table on each network device in the network storage system and in response to identifying, storing entries in the table, wherein each entry identifies a owned disk of the network storing table (See col. 10, lines 41-64 and table 1).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Wang et al in the claimed invention of Nishanov et al in view of Kawashima et al in order to provide a convenient and useful method for managing and accessing netSCI devices on a network (See col. 3, lines 36-38).

r. As per claim 55, Nishanov et al teaches a method of claiming ownership of a plurality of storage devices by a network device in a network storage system, comprising: writing ownership information to a predetermined area of each storage device (See page 4, paragraph [0036-0039]) wherein the predetermined area of each storage device stores definitive ownership data for determining ownership of the storage device (See page 4, paragraph [0039] and page 5, paragraph [0043] and page 7, paragraph [0062 and 0068]); setting a reservation tag for each disk to a state of network device ownership to provide a two part indicia of ownership for each storage device, where the two part indicia of ownership are both written to each storage device (See page 4, paragraph [0036-0039]), wherein the SCSI reservation tag allows other network devices to read the ownership information from each storage device (See page 7, paragraph [0062 and 0068], *read the key and check the ownership*); identifying all storage devices owned by the network device using ownership information written to the predetermined area of each storage device of the plurality storage devices and, for each identified storage device, if a mismatch occurs between the ownership information on the predetermined area of the storage device and



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the ownership defined by the reservation tag, then using the ownership information written to the predetermined area of the storage device as definite ownership data, wherein the network device modifies the reservation tag without interference from a second network device (See page 5, paragraph [0048, 0050] and page 6, paragraph [0051]) However, Nishanov fails to teach creating a table on each network device in the network storage system; and storing entries in the table, wherein each entry identifies an owned storage device of the network device storing the table.

Wang et al teaches creating a table on each network device in the network storage system and in response to identifying, storing entries in the table, wherein each entry identifies a owned disk of the network storing table (See col. 10, lines 41-64 and table 1).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Wang et al in the claimed invention of Nishanov et al in view of Kawashima et al in order to provide a convenient and useful method for managing and accessing netSCI devices on a network (See col. 3, lines 36-38).

7. Claims 20, 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2003/0065782 to Nishanov et al in view of U.S. Patent Application No. 2003/0093501 to Carlson et al and further in view of U.S. Patent No. 6,470,382 to Wang et al.

a. As per claim 20, Nishanov et al teaches a plurality of disks having a first ownership attribute written to a predetermined area of the disk (See page 4, paragraph [0036-0037]) and a second ownership attribute in the form of a small computer system interface reservation tag (See

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page 4, paragraph [0037-0038]), wherein the predetermined area of the disk stores definitive ownership data for determining ownership of the disk and the small computer system interface reservation allows other network devices to read the ownership attribute from the disks (See page 4, paragraph [0039] and page 5, paragraph [0043] and page 7, paragraph [0062 and 0068]).

Furthermore, Nishanov et al teaches wherein each network device ten to the predetermined area of each disk of the plurality of disks and, for each identified disk, if a mismatch occurs between the ownership, information on the predetermined area of the disk and the ownership defined by the SCSI reservation tag, then using the owner information written to the predetermined area of the disk as definite ownership data (See page 5, paragraph [0048] and page 6, paragraph [0054])

However, Nishanov et al fails to teach wherein one or more switches interconnected to form a switching fabric; a plurality of disks, each of the disks connected to at least one of the switches; and one or more network devices, interconnected with the switching fabric, each of the network devices being adapted to own a predetermined set of disks of the plurality of disk and each network device is configured with a table and to store entries in a table, wherein each entry identifies an owned disk of the network device storing the table.

Carlson et al teaches a network storage system comprising: one or more switches interconnected to form a switching fabric; a plurality of disks, each of the disks connected to at least one of the switches (See page 2, paragraph [0039]); and one or more network devices, interconnected with the switching fabric, each of the network devices being adapted to own a predetermined set of disks of the plurality of disks (See page 8, paragraph [0082

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Carlson in the claimed invention of Nishanov et al in

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order to interconnect the attached host devices (see page 2, paragraph [0039]). However, Nishanov et al in view of Carlson fails to teach and each network device is configured with a table and to store entries in a table, wherein each entry identifies an owned disk of the network device storing the table.

Wang et al teaches creating a table on each network device in the network storage system and in response to identifying, storing entries in the table, wherein each entry identifies a owned disk of the network storing table (See col. 10, lines 41-64 and table 1).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Wang et al in the claimed invention of Nishanov et al in view of Kawashima et al in order to provide a convenient and useful method for managing and accessing netSCI devices on a network (See col. 3, lines 36-38).

b. As per claim 23, Nishanov et al teaches wherein the first ownership attribute further comprises a serial number of one of the one or more network devices (See page 4, paragraph [0037]).

c. As per claims 24, Nishanov et al teaches wherein the small computer system interface reservation tag is a small computer system interface level 3 persistent reservation tag (See page 4, paragraph [0035]).

d. As per claim 25, Nishanov et al teaches wherein each of the network devices further comprises a disk ownership table, the disk ownership table containing ownership data for each of the disks (See page 4, paragraph [0036-0037]).

8. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2003/0065782 to Nishanov et al in view of U.S. Patent Application No. 2003/0093501 to Carlson et al as applied to claim 20 above further in view of U.S. Patent No. 6,470,382 to Wang et al, and further in view of U.S. Patent Application No. 2003/0061491 to Jaskiewicz et al.

a. As per claim 26, Nishanov et al in view of Carlson et al and further in view of Wang et al failed to teach wherein the ownership table further comprises a world wide name for each of the disks, the world wide name being used for identification of each of the disks.

Jaskiewicz et al teaches wherein the ownership table further comprises a world wide name for each of the disks, the world wide name being used for identification of each of the disks (See page 3, paragraph [0021]).

It would have been obvious to one with ordinary skill in the art at the invention was made to incorporate wherein the ownership table further comprises a world wide name for each of the disks, the world wide name being used for identification of each of the disks as taught by Jaskiewicz et al in the claimed invention of Nishanov et al in view of Carlson et al and further in

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view of Wang et al in order to give the host device permission to write and read data to and from the storage location the right device id (See page 3, paragraph [0022]).

9. Claims 30, 32-33, 36-42, 45-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application No. 2003/0065782 to Nishanov et al in view U.S. Patent Application No. 6,654902 to Brunelle et al and further in view of U.S. Patent No. 6,470382 to Wang et al.

a. As per claim 36, Nishanov et al teaches network storage system one or more storage devices, each storage device having a predetermined area for storing ownership information and each storage device having a small computer system interface (SCSI) reservation tag wherein the predetermined area of each storage device stores definitive ownership information for determining ownership of the storage device, and the SCSI reservation tag allows other network devices to read the ownership information from each storage device (See page 4, paragraph [0039] and page 5, paragraph [0043] and page 7, paragraph [0062 and 0068]) ; Furthermore, Nishanov et al teaches at least one network device having an ownership layer for comparing the SCSI level 3 reservation tag to the ownership information of the same storage device and, if there is not a match, changing the SCSI level 3 reservation tag to match the ownership information (See page 5, paragraph [0048] and page 6, paragraph [0054]). However, Nishanov et al fails to teach the at least one network device having a disk storage layer for configuring the one or more storage devices identified in the ownership table into at least one volume for use by

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the network device and at least one network device having an ownership table constructed based upon the ownership information from each storage device wherein the ownership is stored within the network device;

Brunelle et al teaches the at least one network device having a disk storage layer for configuring the one or more storage devices identified in the ownership table into at least one volume for use by the network device (See col. 8, lines 46-55, *the registered cluster nodes are permitted to write data to the shared storage device because the type of reservation enabled is write exclusive registrants only*).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Brunelle et al in the claimed invention of Nishanov et al in order to provide a method of sharing a storage device amongst a plurality of computers while providing data integrity in the storage device (See page 1, paragraph [0010]). However, Nishanov et al in view of Brunelle et al fails to teach at least one network device having an ownership table constructed based upon the ownership information from each storage device wherein the ownership is stored within the network device.

Wang et al teaches creating a table on each network device in the network storage system and in response to identifying, storing entries in the table, wherein each entry identifies a owned disk of the network storing table (See col. 10, lines 41-64 and table 1).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Wang et al in the claimed invention of Nishanov et al in view of Kawashima et al in order to provide a convenient and useful method for managing and accessing netSCI devices on a network (See col. 3, lines 36-38).

c. As per claims 37, 42 and 47, Nishanov et al teaches setting ownership information at the predetermined area of each storage device (See page 7, paragraph [0068]).

d. As per claims 30 and 38, Nishanov et al fails to teach wherein the step of configuring further comprises: organizing the one or more storage devices into at least one Redundant Array of independent Disks (RAID) group.

Brunelle et al teaches wherein the step of configuring further comprises: organizing the one or more storage devices into at least one Redundant Array of independent Disks (RAID) group (See col. 3, lines 30-35).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Brunelle et al in the claimed invention of Nishanov et al in order to provide a method of sharing a storage device amongst a plurality of computers while providing data integrity in the storage device (See page 1, paragraph [0010]).

e. As per claims 39 and 48, Nishanov et al teaches wherein the predetermined area of the one or more storage devices is sector zero of the one or more storage devices (See page 7, paragraph [0068]).

f. As per claims 32 and 40, Nishanov et al fails to teach wherein the ownership information is a serial number of the network device that owns that particular storage device.

Brunelle et al teaches wherein the ownership information is a serial number of the network device that owns that particular storage device (See col. 7, lines 1-17).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Brunelle et al in the claimed invention of Nishanov et al in order to provide a method of sharing a storage device amongst a plurality of computers while providing data integrity in the storage device (See page 1, paragraph [0010]).

g. As per claims 33 and 41, Nishanov et al fails to teach wherein the ownership table includes a world wide name for each of the storage devices, the world wide name being used to identify each of the storage devices

Brunelle et al teaches wherein the ownership table includes a world wide name for each of the storage devices, the world wide name being used to identify each of the storage devices (See col. 7, lines 1-17).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Brunelle et al in the claimed invention of Nishanov et al in order to provide a method of sharing a storage device amongst a plurality of computers while providing data integrity in the storage device (See page 1, paragraph [0010]).

h. As per claim 45, Nishanov et al teaches wherein the small computer system interface (SCSI) reservation tag is a small computer system interface level 3 (SCSI-3) reservation tag (page 1, paragraph [0007]).



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i. As per claim 46, Nishanov et al in view of Brunelle et al fails to teach in response to reading the ownership information, creating an ownership table on the network device that identifies the one or more storage devices owned by the network device; and using the ownership table to configure the one or more storage devices into at least one volume.

Wang et al teaches in response to reading the ownership information, creating an ownership table on the network device that identifies the one or more storage devices owned by the network device; and using the ownership table to configure the one or more storage devices into at least one volume (See col. 10, lines 41-64 and table 1).

It would have been obvious to one with ordinary skill in the art at the time the invention was made to incorporate the teaching of Wang et al in the claimed invention of Nishanov et al in view of Kawashima et al in order to provide a convenient and useful method for managing and accessing netSCI devices on a network (See col. 3, lines 36-38).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DJENANE M. BAYARD whose telephone number is (571)272-3878. The examiner can normally be reached on Monday- Friday 5:30 AM- 3:00 PM..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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